

REMARKS

By the above supplemental preliminary amendment, applicants submit herewith a clean version of the amended claims, with a marked up copy being attached hereto, which is responsive to the communication dated March 13, 2002 requesting a clean version of the amended claims.

Entry of the Preliminary Amendment filed December 20, 2001 and this Supplemental Preliminary Amendment and favorable action of the application is respectfully requested.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (520.40496X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please amend claims 1-9 as follows:

1. (amended) A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism [being received] disposed within  
said housing [and] for rotating a disc;

an optical pickup mechanism [being received] disposed  
within said housing [and] for reproducing or  
reproducing/recording [of] information on the disc[,];  
wherein[:]

said optical pickup mechanism has an optical pickup and a  
driving mechanism for driving said optical pickup in a radial  
direction of said disc;

said optical pickup comprises a pickup housing made of  
metal, in which are mounted a laser diode emitting [a]  
detection light for reproducing or recording [the] information  
on said disc, a laser driver circuit board for controlling  
said laser diode, an objective lens driver for guiding the  
detection light emitted from to a predetermined position on  
said disc and for guiding reflection light from said disc onto  
an optical detector, optical parts[,], including a lens, a  
prism, a mirror [therein], and an optical detector for  
detecting said detection light; and

[said pickup housing mounts] said laser diode and said laser driver circuit board are mounted in thermal contact with [connecting them thermally,] said pickup housing so as to be disposed [in] adjacent [with] to each other, while providing a thermal separation portion for thermally separating [between] said laser diode and said laser driver circuit board.

2. (amended) A disc driving apparatus as defined in the claim 1, wherein said thermal separation portion comprises a dividing portion formed with either one of a slit portion or a recess gutter, for dividing said pickup housing, disposed between said laser diode and said laser driver circuit board, and a heat separation member disposed in said dividing portion.

3. (amended) A disc driving apparatus as defined in the claim 2, wherein said pickup housing is made of metal material having good thermal conductivity, [including aluminum, magnesium, zinc,] and said thermal separation portion is formed by filling resin material into the separation portion of said pickup housing, thereby to form them in one body.

4. (amended) A disc driving apparatus, comprising:  
a housing of a disc drive;  
a rotation mechanism [being received] disposed within said housing [and] for rotating a disc;

an optical pickup mechanism [being received] disposed within said housing [and] for reproducing or reproducing/recording [of] information on the disc[,]; wherein[:]

said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in a radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting [a] detection light for use [of] with a CD, so as to reproduce or record [the] information on said disc, a laser diode for emitting a detection light for use [of] with a DVD, so as to reproduce or record [the] information on said disc, a laser driver circuit board for controlling said laser diode for use [of the] with a CD, an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector, optical parts[,], including a lens, a prism, a mirror [therein], and an optical detector for detecting said detection light; and

[said pickup housing mounts] said laser diode for use [of the] with a CD, said laser diode for use [of the] with a DVD, said laser driver circuit board and said objective lens driver[,], are mounted in thermal contact with [connecting them thermally] said pickup housing, wherein said laser diode for use [of the] with a CD and said laser driver circuit board are disposed [in] adjacent [with] to each other, [while providing]

and a thermal separation portion is provided for thermally separating [between a side of] an area occupied by said laser diodes for use [of the] with a CD and [the] DVD and [a side of] an area occupied by said laser driver circuit board and said objective lens driver within said pickup housing.

5. (amended) A disc driving apparatus as defined in the claim 4, wherein the prism and the mirror of said optical portions and said optical detector are disposed [on a side being] nearer to said laser diodes for use [of the] with a CD and [the] DVD than to said thermal separation portion.

6. (amended) A disc driving apparatus as defined in the claim 4, wherein said thermal separation portion is provided[, ] so as to thermally separate either one of between said laser diode for use of the CD and said laser diode for use of the DVD, and between said laser driver circuit board and said objective lens driver[, thermally].

7. (amended) A disc driving apparatus, comprising:  
a housing of a disc drive;  
a rotation mechanism [being received] disposed within said housing [and] for rotating a disc;  
an optical pickup mechanism [being received] disposed within said housing [and] for reproducing or reproducing/recording [of] information on the disc[, ];  
wherein[:]

said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in a radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting [a] detection light for use [of] with a CD, so as to reproduce or record the information on said disc, a laser diode for emitting [a] detection light for use [of] with a DVD, so as to reproduce or record [the] information on said disc, a laser driver circuit board for controlling said laser diode for use [of the] with a CD, an objective lens driver for guiding the detection light emitted to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector, optical parts[, ] including a lens, a prism, a mirror [therein], and an optical detector for detecting said detection light; and

said pickup housing is defined by a sidewall formed all around the periphery thereof and a bottom wall, and said laser diodes for use [of the] with a CD and [the] a DVD, said laser driver circuit board and said objective lens driver are mounted therein[, ] in thermal contact with [thermally connecting thereamong] said pickup housing, wherein said laser diode for use [of the] with a CD and said laser driver circuit board are disposed [in] so as to be adjacent [with] to each other, [while providing] and a thermal separation portion is provided for thermally separating [between a side of] an area occupied by said laser diodes for use [of the] with a CD and

[the] a DVD and [a side of] an area occupied by said laser driver circuit board and said objective lens driver within said pickup housing.

8. (amended) An optical pickup, comprising:

a laser diode for emitting [a] detection light, so as to reproduce or record information on a disc;

a laser driver circuit board for controlling said laser diode;

an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector;

optical parts[, ] including a lens, a prism [therein], and a mirror [therein]; [and]

an optical detector for detecting said detection light;  
and

a pickup housing made of metal material, in which said above-mentioned elements are mounted[, ] wherein[:]

[said pickup housing mounts] said laser diode and said laser driver circuit board are mounted in thermal contact with [connecting them thermally,] said pickup housing so as to be disposed [in] adjacent [with] to each other, [while providing] and a thermal separation portion is provided for thermally separating [between] said laser diode and said laser driver circuit board within said pickup housing.

9. (amended) An optical pickup, comprising:

a laser diode for emitting [a] detection light, so as to reproduce or record information on a disc, for use with a CD;

a laser diode for emitting detection light so as to reproduce information on a disc, for use with a DVD;

a laser driver circuit board for controlling said laser diode for use with a CD;

an objective lens driver for guiding the detection light emitted from/to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector;

optical parts[, ] including a lens, a prism [therein], and a mirror [therein]; [and]

an optical detector for detecting said detection light;

and

a pickup housing made of metal material, in which said above-mentioned elements are mounted[, ] wherein[:]

[said pickup housing mounts] said laser diode for use [of the] with a CD, said laser diode for use [of the] with a DVD, said laser driver circuit board and said objective lens driver[, ] are mounted in thermal contact with [connecting them thermally] said pickup housing, wherein said laser diode for use [of the] with a CD and said laser driver circuit board are disposed [in] adjacent [with] to each other, [while providing] and a thermal separation portion is provided for thermally separating [between a side of] an area occupied by said laser diodes for use [of the] with a CD and [the] a DVD and [a side



of] an area occupied by said laser driver circuit board and  
said objective lens driver.